Better Crops

The Pocket Book of Agriculture

October 1924 10 Cen

Unscrambling the Ology Omelet by F. J. Schneiderhan
—The Cooperative Idea by C. J. Brand—Jeff McDermid

Experiment on Egg Plants, by J. D. Smith, Hillsborough County, Fla.

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Better Crops

The Pocket Book of Agriculture

VOLUME III NUMBER TWO

Table of Contents for October, 1924

Mr. Farmer, Individualist 3
Jeff says there's no "average" farmer

Must County Agents Be Married? 5
A bachelor county agent pleads his case

To the Highest Bidder 6
Something about marketing fruits, by Frank George

Shall We Renovate the Old Strawberry Bed? 8
Useful suggestions, by C. E. Baker

Livestock Breeding by Choice or Chance 10
Surprising results discussed, by D. S. Burch

Alfalfa Creates Potash Hunger 12
A timely warning, by C. A. Whittle

The Cooperative Idea 13
Consumers' cooperative stores, by C. J. Brand

Unscrambling the Ology Omelet 17
F. J. Schneiderhan on swivel-chair scientists

The Last of the Poisonous Plants 20
The conclusion of Prof. Hansen's series

Fertilizing Cucumbers 22
Suggestions for profit, by H. E. Young

Fertilizer Experiments in Mississippi 26
The last map of the series prepared, by D. D. Long

Who's Who of Better Crops

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VOL. III NEW YORK, OCTOBER, 1924 No. 2

¶ In which we bring out some meaty points about

MR. FARMER, Individualist

By Jeff McDermid

ESSAYISTS state that one should always begin with a truism; and I submit this: Everything we have comes from the ground.

Glance about you. Check me up.

That lamp? The glass chimney is melted quartz; the bronze base a mixture of copper, tin and other alloys—born of earth. The wick? Woven from cotton, and cotton comes from the soil. The oil gushed forth from the same source. The match with which you light it is wood and sulphur, both products of the ground.

The cigar you are smoking? From the soil.

The magazine you hold in your hand is printed on paper made from wood pulp which came from trees which came from the ground. From the depths of coal mines came the coal from which was extracted the black pigmented ink you now read. All food originates certainly beneath our feet.

AND a new era is dawning on the world. We are beginning to see that the men who fell the trees, cultivate the earth, dig the soil, mine the iron ore and the copper, are useful men. We are beginning to believe in a creed that surpasses all other creeds: the creed of usefulness.

The men who supply the countless needs of civilization are beginning to receive their rewards.

And, as far back as we have any records of civilization, the cultivation of the soil has been the most useful, and most important industry in every civilized country.

Webster defines agriculture thus: "The science of cultivating the ground."

But that is not a sufficient definition, for agriculture is more than the tilling of earth. Agriculture is the art of coercing unwilling Nature to yield bountifully; and this coercion implies the application of brain and heart to mere handicraft—it tokens that study, experiment and full love for the work are required in addition to the physical tasks.

And here agriculture differs from the mining of coal, from the drilling for oil, or from forestry.

For the coal lies there awaiting the miner's pick, but the farmer must struggle to force the soil to yield a hundred bushels of corn and mix brains with the struggle. While forest trees will grow without man's aid, alfalfa will not; and if you dig in the right place oil will gush forth, but unless you know how you cannot raise clover.

AGRICULTURE is work, plus brains. Agriculture is the first science of Nature.

Farming is not alone an art—*it is a life!*

And there is a fact overlooked by theorists, sophists, pedagogs and politicians who meddle in agriculture, trying through statutes to improve the farmers' lot.

Farming is *a life*.

There is no eight hour day on a farm. Chanticleer is Nature's time clock, and weariness alone points the hour when work shall stop. The farmer works his life and lives his work. He is a being apart from the world, in a world of his own making.

All about him lie evidences of his own toil. He is monarch of all he surveys.

And because this is so, the farmer is an individualist. His likes and dislikes are pronounced, and he often mistrusts the intentions of other well-meaning folks.

NO two farms are alike.

Man is a product of heredity and environment. He is kin to that upon which he feeds and he mirrors his surroundings. Every farmer is cast in the mould of his own experiences. His problems have carved his understanding.

There is no "average" farmer. I have heard folks speak of him, but search has failed to reveal him to me.

In a city block there may live bankers and barbers, clerks and clerics, mechanics and manufacturers—their home lives differing only as their incomes vary.

The city man does not live with his work. The banker does not live in the bank, nor does the mechanic make up his bed under his lathe. The whistle blows, the bells ring, and they go to homes that are far from the scene of their labors.

Thus city men have similar tastes. They think alike, dress alike, act alike and respond to the same reasoning. They are mostly average.

I have heard it stated that farmers, full-grown, are hard to teach, and I can well believe this is so; for teachers are accustomed to addressing their arguments to average folks. There is no preparation made in our educational system for the ones below or above the average. No plan is conceived and outlined for developing the individualist.

Graduates are like Fords on the shipping platform—identified by number only.

POLITICIANS complain that they cannot deliver the farmer vote.

(*turn to page 48*)

Must County Agents *Be* Married?

By *a Wyoming County Agent*

(This is a snappy comeback to the article by County Agent L. E. McDaniels which was published on this page last month. The author offers an able defense of the unmarried extension worker.

IT was with a great deal of interest that I read the article "The County Agent's Wife," by L. E. McDaniels in the September issue of BETTER CROPS.

It is not the purpose of this brief reply to this article to minimize the importance of the valuable work the County Agents' Wives are doing or to uphold the unmarried County Agent as a model of a successful Extension Worker.

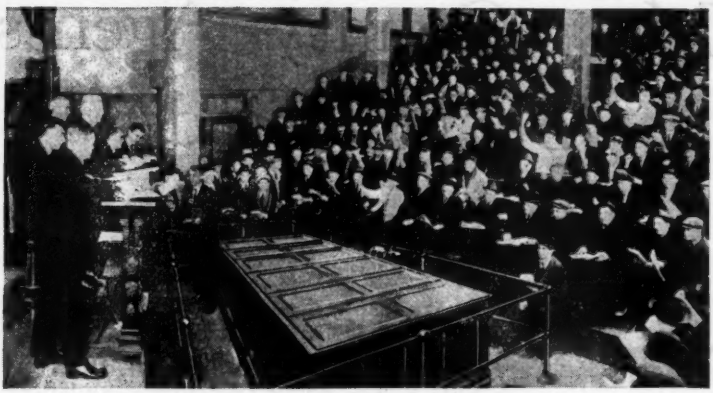
County Agent McDaniels and his wife have made an enviable record and all credit to them both, for he, without her assistance, would not have been as efficient. Their case is not the average, however, as there are few County Agents' Wives who have the time, the public interest and the other needed qualities to complete a well rounded out Extension Agent's Program.

A sentence from Mr. McDaniels' story says, "All thinking people know that any man either too young or too selfish to marry and make a home is not fit to be intrusted with the responsibilities of advising others on matters that are a basic part of his duties." If this be true and the writer has the interest of the single Agent at heart why does he merely congratulate himself on his choice of a life partner and offer no suggestions on how the unfortunate single Agents may select or be selected by capable, public spirited, cooperating women. This might cause some to wonder if only single men in Extension Work were selfish.

If the County Agent must be married to advise others on matters that are a basic part of his duties, surely the Nutrition Specialist should be a mother to advise proper feeding of the child, and the nurse must be one who has raised a family to know how to care for one. The great musician will need to be a manufacturer of musical instruments or he will not understand the instrument that he is playing, the typist a maker of typewriters and the chauffeur a manufacturer of automobiles in order that they be familiar with the instrument or machine that they are using.

IF the County Agent must be married to be qualified to advise, surely he must be a poultryman as he advises how to feed and care for poultry, he must be a livestock man as he advises on types of hogs, cattle, sheep, and horses, he must be a veterinarian in order to advise about animal diseases, he must be an entomologist to advise about

(turn to page 48)



An active scene at a New York fruit auction. The fruit is sold by catalogue, number corresponding with "lots" of commodities displayed on the pier below.

To *the* Highest Bidder

By *Frank George*

U. S. Department of Agriculture

"SOLD!" The auctioneer's hammer fell and another block of fruits changed hands.

Sales of American and foreign fruits at public fruit auctions in the United States now aggregate more than $150,000,000 a year. Domestic citrus and deciduous fruits make up the bulk of these sales. Ten years ago the business was less than $50,000,000 a year, and largely in foreign fruits.

Some marketing men predict as a result of this rapid growth that the auction system will eventually replace all other sales methods of marketing American farm products. In New York City more than 50 per cent of the annual carlot receipts of 50,000 cars of fruits and vegetables is now sold at auction. Other marketing men assert that the auction is another link in the marketing chain and therefore cannot survive.

BACK in 1827 a shipment of Malaga grapes was received at New York from Spain. A quick buyer could not be found, and because of the perishability of the product the grapes were sold at auction. The returns were so satisfactory that other auction sales of imported products were subsequently held, and by 1839 the system had become a regular marketing medium for foreign products, particularly foreign lemons. Lemons were coming into the country in large quantities and the auction method was utilized as a quick sales medium to prevent market gluts.

Sales of domestic fruits at auction

were held at irregular intervals, but it was not until 1885 that domestic products appeared in large quantities in the auction rooms. Florida oranges began to arrive at New York in larger supply than could be absorbed by regular trade channels, and the emergency of market gluts was met by the auction method. The development of the refrigerator car soon placed large quantities of California deciduous fruits on the eastern markets, and again the auction block was brought to the rescue.

Auction rooms were established in other cities to dispose quickly the large quantities of domestic fruits appearing regularly on the markets. By 1912 the total volume of business handled by the auctions was $42,000,000 and by 1917 it was $65,000,000, an increase of more than 50 per cent in the five-year period. Then came the boom in cooperative marketing and by 1922 the auction business totaled $148,000,000, an increase of more than 100 per cent in the second five-year period.

THERE are now 21 major auction companies in 14 leading American cities. Eight of these companies are controlled by independent operators having no other connection with the fruit and vegetable trade, and 13 are controlled by trade interests. Four auction companies in New York alone handle more than 95 per cent of all California deciduous fruits marketed in the Metropolis, nearly 95 per cent of the California citrus fruits, approximately 85 per cent of all Florida fruits, more than 95 per cent of all foreign fruits, and 60 per cent of the arrivals of boxed apples. The total business done by these companies last year was more than $65,000 000 and represented 45 per cent of all commodities marketed by the auction method in the United States.

Two auction companies in Boston do more than $16,000,000 of annual business; sales through two companies in Philadelphia total nearly $18,000,000 annually, and through two companies in Chicago around $12,000,000. Other auction companies are located at Pittsburgh, St. Louis, Cleveland, Cincinnati, Baltimore, New Orleans, Detroit, Newark, Minneapolis and St. Paul. It is estimated that the 21 auction

(*turn to page 39*)

Prospective buyers inspecting samples of commodities to be sold at auction.

A typical strawberry patch showing possibilities of renovation. The rows are wide giving a good choice of plants to be saved as a foundation for the new bed.

Shall We Renovate the

By C. E. Baker

Purdue University, Agricultural Experiment Station

THERE is a wide difference in opinion among strawberry growers regarding the advisability of renovating old strawberry beds. Many growers prefer to plant new beds each spring, plowing under the old plantings as soon as the fruit is gathered. Many equally successful growers renovate the old bed and secure a crop the second season; others renovate annually for several years. It seldom pays to renovate a bed more than once however, and in many cases it is undoubtedly more profitable to make a new planting each year.

Under certain conditions it is a paying practice to renovate the old bed, and use it for the second season's crop. This is especially likely to be the case on high priced land. The determining factor in any case is the size of the crop secured. If a bed can be renovated in such a manner as to come back with a second crop as large, or even nearly as large as could be secured from a new planting, the grower has a decided advantage, as it would take him another year to grow the new plants to the fruiting period. In other words he has secured two crops in three years from the same piece of land, where, if new land is used each year, only one crop is secured every two years from the same land. But as before mentioned the proper practice to follow must be determined wholly by local conditions. Both practices have stood the test of commercial usage and each type of procedure has its following of loyal adherents.

THOSE who wish to renovate their old strawberry beds may find the following suggestions of value.

After the excess plants have been removed. The narrow strip of plants left contains the mother plants for the new bed. Only young and vigorous plants should be used for this purpose.

Old Strawberry Bed?

¶Advice on successful renovation that means profits to strawberry growers.

A rather common preliminary practice in the renovation of an old bed is the mowing and burning over of the patch to destroy insects and their eggs, together with fungus disease spores. While this may often be done successfully by the experienced grower it is a dangerous practice for the amateur to follow and often results in serious injury to the patch.

The safest time to burn over the patch is soon after the fruit is harvested. The patch is first mowed and permitted to dry. It is well to go over the bed with a hay tedder to loosen up the mulch and leaves so that they will dry out better and burn more evenly. A windy day when the ground is as moist as possible should be chosen for burning over the bed.

A much safer method, though less efficient from the standpoint of insect and disease control, is followed by growers in some sections, especially if the soil is dry. The strawberry leaves are cut and the leaves together with the mulch between the rows are raked from the field as soon as possible and burned or plowed under in other soil which is not to be used for growing strawberries.

The next step is to get rid of the excess plants and to prepare the soil for the new plants which are to be formed from the mother plants saved from the old bed. Growers have many different ways of accomplishing this. Perhaps the quickest and most satisfactory method is to plow under most of the old row, leaving a strip about six inches wide. This strip should be left at one side of the center of the original row. By so doing the younger and

(*turn to page 32*)

¶In our last issue Mr. Burch described the plan of the "Better-Sires—Better-Stock" campaign. In this concluding article he goes on to appraise the remarkable results that have been obtained.

Livestock Breeding *by* Choice *or* Chance

Part Two

By D. S. Burch

Bureau of Animal Industry,
U. S. Department of Agriculture

As this article is being written a letter has just arrived from Wayland Rhoads, Field Agent in Animal Husbandry for Kentucky. He encloses a report from Gordon B. Nance, county agent for Oldham County in that State. That county has 248 farmers enrolled in the "Better-Sires — Better-Stock" campaign, which means of course that they are using purebred sires on all their herds and flocks. There are other farmers of course who are not enrolled, but the number mentioned is considerably greater than that in either of the counties on each side of Oldham County.

The report deals with the current returns which Oldham County farmers are getting for their livestock and livestock products. Using the average of the other two counties as a basis for comparison, the report shows a balance of $128,968 a year as a premium received by Oldham County farmers, traceable to the use of purebred sires. The report was itemized for the different kinds of stock and contained all the steps leading up to the total mentioned. It is not a fortune, to be sure, but it is a tidy sum to come rolling in year after year and probably increasing as the stock improves still more. At my request, an expert statistician checked over the figures of the report and reported them to be O. K.

An equally interesting report was received some months ago from E. C. Grigsby, county agent of Pulaski County, Virginia, which has 589 livestock owners whose farms are on a purebred-sire basis under the better-sires plan. The report contained an itemized list of the breeding stock in the county on October 1, 1919, when the campaign was begun and again four years later.

"These figures," Mr. Grigsby pointed out, "show an increase in the four years of 135 purebred rams, 260 purebred ewes, 128 purebred boars, 72 purebred beef bulls, 123 purebred beef cows, 6 purebred dairy bulls and 28 purebred dairy cows. These increases range from 90 to 582 per cent and average 150 per cent.... While this county can not yet boast of being scrub free, there are now a number of sections containing several square miles each in which there are no scrub or grade bulls used, and these same sections are dotted with purebred

bulls of good quality.... Purebred calf, baby beef, purebred pig, fattening pig and standardbred poultry clubs have been conducted in the county since the beginning of the campaign.... I hope the above information will be of assistance to the Department in furthering this campaign in other sections of the country."

THE results briefly outlined in the two counties mentioned are typical of what can be expected anywhere. Heredity works just the same in all parts of the country, never takes a day off, shows no partiality for any kind of stock and is equally ready to serve the novice and the experienced breeder.

Thirty-five counties in eight different States now have the distinction of possessing 100 or more farmers using purebred-sires exclusively. The number is gradually increasing as shown by the "honor-roll" list issued quarterly by the Bureau of Animal Industry of the U. S. Department of Agriculture. The report containing the list gives other information also concerning the work. It shows that up to July 1, of this year a total of 14,369 livestock owners are purebred-sire users, and that they own more than one and-a-half million head of breeding stock.

The thoughtful reader is likely to inquire about this time, "How many who start this work actually keep it up, and how many go back to the use of scrubs and grades?" It is a fair question and deserves a frank answer. Complete information on this subject is difficult to get, but the records show that out of the 14,369 livestock owners who took the forward step as progressive breeders, only one was a backslider. And he was an unwilling one. It happened this way.

All went well for a time after he "signed up." Then he moved to another State, which it will do no good to name because the livestock authorities there know the conditions and are trying to remedy them. The conditions he describes, moreover, apply to only a small portion of the State. "I have lived here now eight months," he writes, "and absolutely no effort is being made to rid the county of its scrub animals. This county seems to be back some 15 or 20 years with regard to its stock. A man may ride along the road for miles and seldom see anything but scrubs. A few ordinary cows may be noted but always sired by a scrub bull.

(*turn to page 45*)

USE PUREBRED SIRES AND CREATE A BETTER MARKET FOR YOUR FEED.
·GOOD PUREBRED SIRES PRODUCE GROWTHY OFFSPRING.
Razorback Stock Takes Almost 2 Years To Mature.
Purebred Hogs reach market size within 8 months, and good grades grow nearly that fast.
'GROWTHY OFFSPRING MATURE EARLY.'
·MORE FEED GOES INTO MARKETABLE MEAT AND LESS INTO MERE MAINTENANCE.·

Exhibit material pointing out the important influence which good breeding has on economy in feeding.

Alfalfa Creates Potash Hunger

By C. A. Whittle

The place of legumes in building soil fertility is well recognized, but to get the full value from them one should heed the warning of this article.

IT is now a well established fact that cotton planted after alfalfa suffers severely from rust. The results of experiment station tests and the universal experience of southern farmers fully confirm this.

Rust on cotton is a manifestation of potash hunger. In the experiments where cotton after alfalfa receives potash in the fertilizer, there is no rust while alongside where no potash is applied there is severe rust damage. The case is clear. It is potash hunger satisfied in one case and potash hunger unsatisfied in the other.

Not only is there need of potash after alfalfa but the need shows up in the form of rust after legumes such as cow peas, clover and soy beans turned under, and is most severe where lime has been applied. The lime doubtless promotes heavier yields of legumes which causes them to draw more heavily on the soils supply of available potash.

This potash deficiency is not confined to soils known to be low in potash content but it manifests itself very strikingly on the red clay soils of the Piedmont region of the south, known to be high in potash content. In fact, it is in the great Piedmont region of the southeast where the most striking examples of potash hunger have shown up after legumes.

RUST on cotton of the Piedmont region under these conditions has upset a doctrine that has been preached for many years, that is, only organic matter incorporated in the Piedmont soils is necessary to unlock the large natural supply of potash.

The incorporated organic matter has not met expectations. To the contrary, the more the legumes are grown on the clay soils, the more the potash hunger shows up. Not that organic matter locks the native potash up tighter, but probably not enough potash is released to balance the increased supply of nitrogen and phosphoric acid which the soil is receiving.

THE writer recently went into some of the experimental data on this point and has consulted several farmers who have grown cotton after legumes turned under. Wherever potash has not been used, the yields were less than where it had

(turn to page 45)

The Cooperative Idea

PART THREE

By Charles J. Brand

Consulting Specialist in Marketing, U. S. Department of Agriculture

¶In our March and April issues, Mr. Brand discussed cooperation from the selling angle. In this article he treats it from the buying side. As this is a subject on which opinions vary considerably, we shall welcome expressions of other points of view from our readers.

SOME one has said that cooperation consists in putting yourself in such a frame of mind that other people can work with you. There is a lot of truth in this aphorism, but there is a lot more to cooperation than it expresses. Cooperation is affirmative and sometimes almost militant; it is not passive. You must not only be fit to work with but you must go out and work to get your neighbor to work with you, and then you must really work with him. Too many people talk about cooperation —too few work at it. It calls for the submergence of self and self-interest for the common good, and this is hard to do.

In speaking of marketing of farm products, I have often said that cooperation is not a religion but a way of doing business. It must produce practical business results if it is to live and thrive. However, that is not all there is to it. Cooperation has a deep social significance that will increase as America becomes more thickly populated and as the struggle for a livelihood becomes keener and keener. Hence, if the business results of cooperation are only equal to the usual form of private enterprise, there will still be by-products of such great value that it should receive constant encouragement in order that it may exist efficiently side by side with our competitive system, each forcing the other to render society its fullest service.

IN the March number of BETTER CROPS I told most briefly the story of the Rochdale Pioneers, who constitute the successful forerunner of modern consumers' cooperative stores. That was in 1844, or 80 years ago. This represents only the span of a single lifetime for many people. In fact, my own mother, had she been born in Manchester instead of Switzerland, might almost remember the founding of the Rochdale Equitable Pioneers' Society.

The business volume figures for 1923 of the two great English cooperative selling organizations have recently become available. The English Cooperative Wholesale Society did a business totaling $321,772,980 at par of exchange. The Cooperative Union in its last yearbook states that the consumers'

cooperative societies of Great Britain employ in their shops and their activities more than 128,000 employees.

Germany has long stood next to Great Britain in the development of consumers' cooperation. At the close of 1923 she had 2,594 consumers' organizations.

Norway, with 823 consumers' organizations, reported 436 of them as having a membership of about 110,000 and a business of over 133,000,000 kroner (the par value of the krone is 26.8c.).

Switzerland, with 519 societies in 1922, had over 363,000 members and did a business of nearly $55,000,000.

Denmark has been making excellent strides in consumers' distributive activities, and in 1922 her cooperative stores sold between forty and fifty million dollars worth of consumers' wares.

IF I were asked to state in a sentence the great purpose of consumers' cooperative enterprises, I would say that it is to reduce the cost of food and of all other necessities of life and to relieve the consumer to the greatest possible extent from the payment of speculative profits.

We have developed producers' cooperation to an extent unheard of in other nations so far as the value of products marketed is concerned. The purpose of producers' cooperation in agriculture is to bring back to the grower the highest possible proportion of the consumers' dollar. The purpose of consumers' cooperation is to secure for the buyer the greatest possible value in goods for every dollar expended.

Of a total of 8,313 cooperative organizations noted by the Bureau of Agricultural Economics of the Department of Agriculture only 479 were cooperative stores. The first cooperative store or "buying club" of which I have found mention was organized by a tailor in the City of Boston in 1844. By 1852 the Working Men's Protective Union, which was the outgrowth of this tailor's experiment, had 165 branches. In 1857 it had 350 branches, and did a business of about $2,000,000.

In the meantime another similar organization had grown up with over a million dollars worth of business. With the outbreak of the Civil War and the accompanying rise of prices, all of these organizations failed. After the Civil War the Grange, or Patrons of Husbandry, organized a large number of cooperative stores, a few of which are still in successful operation. I am told that there is one in Susanville, Cal., that was established in the early 70's.

The membership of the Farmers' Union, particularly in many localities in the southern states, has organized cooperative stores a considerable number of which are in successful operation.

In the period around 1910 an organization known as the "Right Relationship League" came into existence in Minnesota with headquarters in Minneapolis. It organized and conducted a chain of cooperative stores in the State of Minnesota. For a period of five or six years a number of these stores were distinctly successful; thereafter, by reason of incompetent management, bad bookkeeping, unskillful buying and other factors the League, as such, failed although a number of individual stores are operating successfully to this day.

In 1920 the Cooperative League of America estimated that there were about 3,000 consumers' societies in the United States, with a total membership of over 500,000 and with a combined purchasing power of $200,000,000 annually. These figures seem excessive in view of the fact that only 479 cooperative stores reported to the Department

(*turn to page 31*)

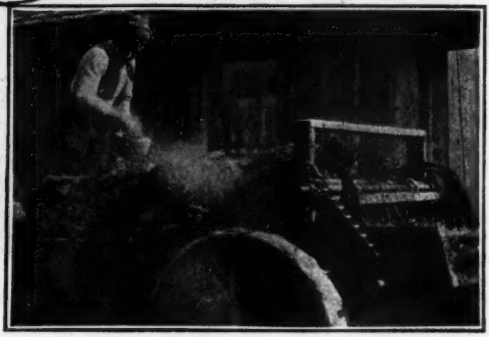
Better Crops' ART GALLERY *of the month*

This is James I. Hambleton who on October 1st, will assume charge of bee and honey investigations for the U. S. Department of Agriculture at the government apiary near Washington.

County Agent J. P. Quinerly, of Bishopville, South Carolina, is asking how this corn found its way into a field of velvet beans.

The lucky father of this wonderful boy is J. W. Willis, State Agent and Assistant Director of Agricultural Extension Work in Mississippi.

On the right is Mr. A. L. Tyler of Lawrence, Washington. He is supplementing his barnyard manure with superphosphate which is one of the missing elements in his particular soil. He verifies his results by check plots, one where only manure is used and one without any treatment.



¶Mr. Schneiderhan has some pointed and surprising things to say about research work. Read them and tell me what you think.

Unscrambling *the* Ology Omelet

By F. J. *Schneiderhan*

Virginia Experiment Station

ONCE upon a time a wise Oriental got up and told the world that "Mahomet must go to the mountain, the mountain will not come to Mahomet." We are going to leave it to our gentle readers for decision whether this cryptic remark, centuries old, is not a good theme for the small flock of words which we hope Jeff will release along his farflung editorial line.

I speak from a hide bound conviction in this article. I believe the thought that I wish to convey is thoroughly worth while or else I should not have ventured to release it to the critical readers of BETTER CROPS.

MOST of my readers, over thirty years of age, who have lived in a small town know that the old fashioned town druggist was the oracle who spoke wisely and with utter finality of things medical dental, herbal, obstetrical, etc. He was wise in the ways of teas, morphine and belladonna. It was he who advised the tidy housewives of the artistry of wall paper hanging, painting and how to create an oak grain on a plebeian pine board. He was an institution—a great homogeneous bump of ready information—and his place in the sun was unchallenged until the specialists arrived, stole his thunder and went farther than ever he dared. The old tooth extraction by the string and door-knob method with its horrors and uncertainties was replaced by the modern tooth carver who extracts without pain to anything except the victim's pocketbook. A real advance over the stone age methods used by the druggist of our story. Today, we no longer see an intelligent man with one lone incisor at the front of his mouth.

The druggist-doctor was succeeded by the modern medico who recommends orange juice for the baby instead of the proverbial bacon rind of yesteryear, in spite of the fact that George Ade claims that many a renowned Congressman received much powerful nurture and contentment from the bacon rind in infancy.

The druggist-artist no longer advises credulous housewives about the color combination that would set their houses off in complete harmony with spireas, barberries, forsythias and lilacs in the foreground. The domestic science and

arts department at the high school with a cleancut, good looking girl, fresh from college, at the head, tells about color combinations and puts the business across with a bang. She speaks of balanced rations, vitamins and fireless cookery. Progress in the right direction? You bet.

Today, the entire category of wise sayings and home remedies of our village druggist has been looted clean and instead of his omelet of wisdom picked up from almanacs, experience and a bit of formal education we have specialists. His omelet has been thoroughly unscrambled. William Jennings Bryan may doubt the word "evolution" but there you have it applied before your very eyes. It may have taken several million years to create a discontent for fancy aerial stunts on a grapevine on the part of primordial man in the good old anthropoidal days, but it was in the past generation that the complex druggist omelet (or to be "real modern"—the druggist omelet complex) was unscrambled. Specialization did it and will do more. The man who said that this is an age of specialization uttered something that was a "Spittin' image" of Old Man Truth himself.

NOW what has all of this to do with Mahomet going to the mountain and unscrambling the ology omelet?

Admitting that specialization is the tendency of our times and that it usually results in general and specific advancement. Have the agricultural colleges and experiment stations kept up with this trend of things? We feel that in a large sense they have, but we also feel there is room for criticism in the arrangement and the performance of such "ologies" as Plant Pathology and Entomology in certain institutions of our country. Horticulture—one of the oldest and most popular outlets of agricultural information — was the department that mothered and is still mothering such lines of work as Entomology and Pathology of plants. These sciences are now so clearly defined and specialized that they should be divorced from Horticulture and, in-

(*turn to page 41*)

Insectary of the Winchester Field Laboratory, in which the most extensive life history investigation of codling moth in the United States are being made. Both laboratory and field conditions of all pests are considered.

The Power To Ignore

By Dr. Frank Crane

IT is going to be difficult to write this article and not be misunderstood. But then, when you come to think of it, only the thing most liable to misuse is of any use, nothing does much good except what may do much harm, and the only creature capable of going to heaven is the one capable of going to hell. So there you are. ¶The captious and tangental mind will say at once, looking up from this page, "Good Lord! here's a man advocating ignorance! He must belong to the Dark Ages. Does he not understand that this is the day of enlightenment, that knowledge is power, and that the sovereign cure-all for ills bodily, ills social, ills economic, political and religious, is Information? Would he have us shut up our Public Schools, Libraries and Correspondence Courses and lapse into barbarism? Pish! Also Tush and Bah!" ¶Still, nevertheless and notwithstanding, I am here to contend that what ails most of us is that we know too much, see too much, hear too much, smell too much and are altogether "careful and troubled about too many things," whereas but one thing is needful, or at most two or six things. What every reader of this wants, what every human being wants, is to work out a practical every-day way to be happy and to be efficient. We want joy, for without joy life is not worth while. And we want it right along, in the kitchen, in the bed-room and in the parlor, on the street and in the office, at work and at play. Confound your philosophical theories! We want to feel good! ¶And the point here to be made is that one of the great secrets of enjoying, twenty-four hours a day consists in cultivating the Art of Ignoring Things. "What you don't know won't hurt you," it is said, but the truth can be stated not negatively but positively: "Your happiness depends upon your power to Ignore." ¶Why, first of all, your Efficiency is measured by your power to Exclude, not by your power to Include. You develop capacity to do some one thing well by the adroitness with which you avoid doing, trying to do or thinking about, all other things. No man can be a student who can not concentrate on his book and close the door of his mind to all distractions. The cook is of no account unless she can be wholly shut up in cooking; if she is interested in what is going on in the parlor, and anxious to see the procession going by with a band in the street, and to know what her neighbors in the flat across the way are up to, she is very liable to burn the roast. ¶A person's power to do a thing well is just in proportion to his power to bar out all other things. This is the day of specialists.

Copyright, 1924, by Dr. Frank Crane

The Last of the POISONOUS PLANTS

By Albert A. Hansen

Purdue University Agricultural Experiment Station

This is the ninth and concluding article in Prof. Hansen's series on poisonous plants. We shall hear from him again soon on some other interesting topics.

THE "Big Three" of the poisonous plants east of the Mississippi River are probably white snakeroot in woodland pastures, water hemlock in wet places and cocklebur sprouts almost anywhere. No attempt will be made to discuss the important stock-poisoning plants of the west—the best information available along this line can be secured by anyone sufficiently interested to address the United States Department of Agriculture.

In addition to the species that have already been considered in this series of articles, there are a number of miscellaneous poisonous plants that may prove troublesome from time to time. There is ergot, for instance—little black bodies that replace the seeds of bluegrass, rye and other species as a result of a sexual disease of the plants. In addition to causing a distinct disease of grazing animals known as ergotism, too free indulgence on ergots may cause abortion. We have had reports of ergotism on bluegrass pastures in southern Indiana and ergot-abortion has been suspected in northern Indiana. Mowing the weeds in fence-rows is a simple method of destroying an important source of ergot infection.

THEN there is laurel poisoning in highland pastures in the east. The leaves of this plant are poisonous and may cause trouble among sheep, horses and cattle during the early spring when other forage is scarce. Again, there is nightshade, the leaves and unripe berries of which contain a poisonous principle held responsible for the loss of sheep in parts of Indiana. The heavy roots of common pokeroot have poisoned hogs in the Hoosier state and they are said to be fatally poisonous to human beings. Whether or not the tops are poisonous is a mooted question with us and we regard the plant with suspicion, even though the young shoots are relished by some for "greens."

Mention should be made of the eastern or dwarf larkspur, a hand-

some little spring-flowering plant with blue, spurred blossoms, buttercup-like leaves and tuberous roots. It grows in meadows and pastures and has poisoned cattle in Ohio, Virginia and Indiana. Mention of the buttercup-like leaves reminds me that eating too freely of the foliage of this plant may cause trouble among grazing animals since buttercup contain an acrid, blistering juice that may cause fatal convulsions.

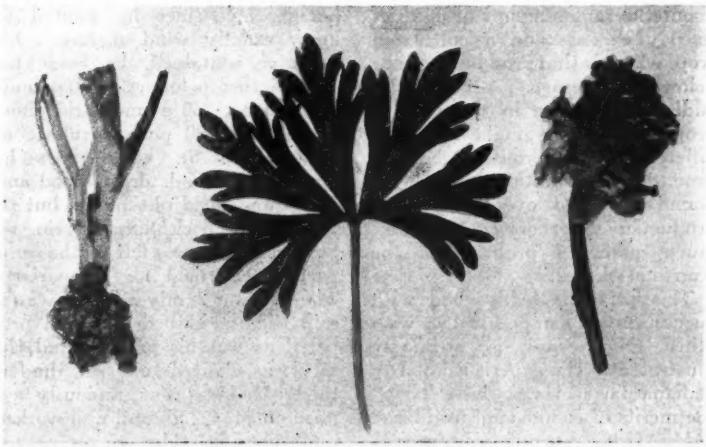
A curious form of poisoning, fortunately rare, is caused by St. John's wort, common in eastern meadows and pastures. If you will examine the leaves of this plant you will probably note hundreds of tiny oil sacs near the surface. This oil may cause a skin disease that affects the white skin areas only. The oil evidently causes the white skin of cattle and sheep to become sensitive to the ultra-violent rays in sunlight, but the trouble is apparently overcome by the simple expedient of painting the white skin black.

WE have had trouble among cattle in Indiana that was evidently due to grazing freely on sneezeweed, a yellow-flowered perennial that abounds in wet places. Cattle, horses and sheep seem to develop a depraved appetite for this plant in much the same manner perhaps as the drug habit is contracted by the human animal. Sneezeweed poisoned stock seem to enjoy a state of super-intoxication that may prove fatal, although the Mississippi station reports that a pint of melted lard poured down the victim's throat will usually prove to be an effective remedy.

The strangest form of plant poisoning of which I have ever heard is due to redroot, a common bog plant along the eastern coast sometimes found growing abundantly in cranberry bogs. Curiously, this plant is dangerous to hogs only and the bones of poisoned animals turn pink in color!

The potato family contains a number of poisonous species. Strange as it may seem, if the skin of the common white potato is allowed to turn green in sunlight it may develop poisonous properties and death in horses has been recorded from eating potato tubers

(*turn to page 34*)



Dwarf larkspur, a relative of the dangerous western larkspur. The dwarf species is poisonous to cattle in Ohio, Virginia and Indiana.

Fertilizing CUCUMBERS

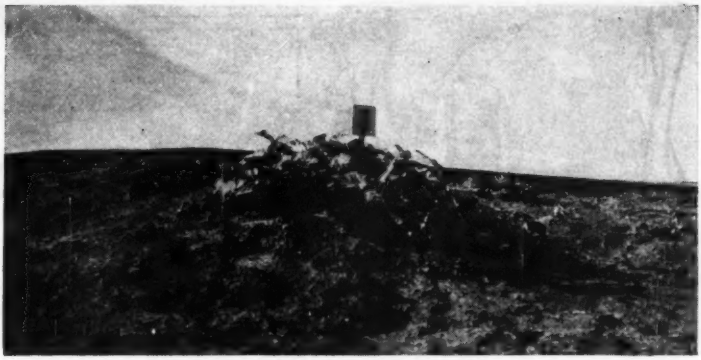
By H. E. Young

¶How two growers made better profits by using proper fertilizers.

AVERAGE crop yields usually fail to show any great amount of net profit. If a farmer cannot secure yields above the average for his locality his balance at the end of the year is likely to be on the wrong side of the ledger. Average yields of most farm crops seldom pay more than the expense of production, and they do not always do that. The cost of producing a better-than-the-average crop need be but little higher than the cost of producing the average yield. In other words, it takes about the same amount of product to pay expenses on a cultivated crop, whether that crop be above or below the average. A very little additional expense in the way of proper fertilizing makes a vast difference in net profits at harvest time. Every additional bushel or pound produced over and above production cost, represents just that much more net profit when the crop is marketed.

This principle holds good with cucumbers the same as it does with other crops, and is strikingly illustrated in the experience of two Indiana farmers who have tested the merits of commercial fertilizers.

Mr. L. G. Furness, of Furnessville, Indiana, is farming for profit —not for health. He grows cucumbers because the crop makes him money and he uses fertilizer because it pays in dollars and cents. Several years ago he arrived at this conclusion after making a simple test with fertilizers. Average yields did not satisfy him—the margin of profit was too small. If he could increase his yields by feeding his soil, it was a business proposition for him to do so. Accordingly, on a portion of his cucumber field he tried 500 pounds per acre of a complete fertilizer analyzing about 2 per cent nitrogen, 7 per cent available phosphoric acid, and 10 per cent potash, and since he wanted to know exactly what materials his fertilizer contained, he made his own mixture as follows:—70 pounds dried blood, 250 pounds acid phosphate, and 100 pounds sulfate of potash. To an equal area he applied 70 pounds dried blood and 250 pounds acid phosphate, but no potash. A check plot, receiving no fertilizer at all, was left on the same part of the field for comparison. The soil was sandy with clay subsoil. The seed bed was well prepared as was his practice and the crop was planted June 3rd, the fertilizer having been previously applied on May 27th and well worked into the soil. The season proved very unfavorable,—an early frost killing the vines after the 18th picking.



Typical vine on unfertilized plot.

Plot	Fertilizer per Acre	Yield per Acre in Bushels	Increase per Acre in Bushels	Increase for Potash Bushels	Value of Increase and Net Profit
1	None	369.5			
2	70 lbs. Dried Blood 250 lbs. Acid Phosphate 100 lbs. Sulfate of Potash	748.5	379.0	250	$156.25 Potash Cost $2.70 Net Profit $153.55
3	70 lbs. Dried Blood 250 lbs. Acid Phosphate	498.5	129.0		

The detailed results from the use of the fertilizers are shown by the accompanying table. Yields were more than doubled by the application of a complete fertilizer. To be exact, the increase per acre on the plot receiving the complete fertilizer (10 per cent potash) was 379 bushels. Where potash was not included in the fertilizer the increase over the unfertilized plot was but 129 bushels. The increase of marketable cucumbers from the complete fertilizer plot was a little over 102 per cent, while that from

(*turn to page 40*)

Typical vine from plot receiving complete fertilizer.

The Editor's O

WHAT WE STAND FOR Our readers by this time know pretty well the aim and policy of BETTER CROPS. So far, I have not attempted to make a platform for BETTER CROPS. But, as a matter of record and to make it clear all around, I am summarizing here the things we stand for.

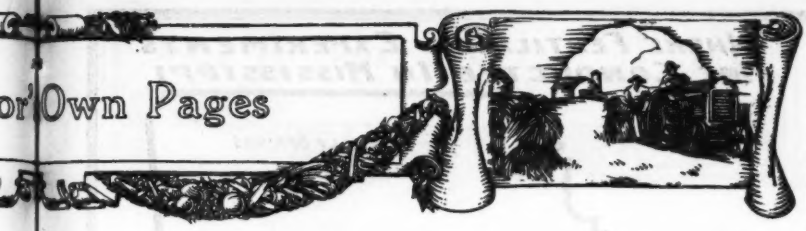
These policies are largely the result of our readers' suggestions. As you will see, the greatest emphasis is placed upon the business side of farming. We want to see farming made profitable. That is our first and foremost aim. We present here the policies which we believe will lead to that end.

The aspiration of the farmer, his wife and family, is to get out of the rut and drudgery of life; to have the comforts and some of the luxuries possessed by the dwellers in the cities, in addition to that freer and more wholesome life enjoyed by the man who lives on the land. Like every human being, he wants to raise his standard of living so that he may *live* more fully in every sense of the word. Economic independence is an indispensable means to this end.

If the farmer is to better his life, he must make money, and in order to make money he must put his business on a profit-paying basis. Until agriculture is a profitable enterprise, we are going to direct our energies toward making it one.

In the meantime, we shall not neglect the other aspects of farming. Educational and social topics will have their place in our page and, as always, our readers are welcome to express their views in our pages.

As editor, I shall endeavor to follow the policies outlined here and strive to view the problems of agriculture and of life with a cheerful outlook, an open mind and an understanding heart.



1. Agriculture should be put on a business basis
   - (*a*) by raising high yields at low cost
   - (*b*) by a sound diversification of crops providing several sources of income
   - (*c*) by maintaining soil fertility
   - (*d*) by using pure seed and a sound rotation
   - (*e*) by using purebred sires
   - (*f*) by keeping cost account records
   - (*g*) by raising quality products
   - (*h*) by studying consumers' demands and seeking to meet them.
2. The farmer is entitled to a larger share of the consumers' dollar and to that end should work for
   - (*a*) improved marketing conditions
   - (*b*) lower and more equitable taxes
   - (*c*) improved transportation facilities
   - (*d*) enlarged markets and more consumers.
3. Living and working conditions on the farm should be improved,
   - (*a*) by introducing more comforts and conveniences in the farm home
   - (*b*) by better rural education and enlarging boys' and girls' club work
   - (*c*) by developing local leadership
   - (*d*) by formulating and working out local programs.

Jeff McDermid

MISSISSIPPI

State Experiment Station—Starksville and Branch Experiment Stations—Holly Springs, Stoneville, Raymond* and Poplarville.

Kind and quantity of fertilizers for cotton and corn.
Rotation and soil fertility tests.
Source of materials.
Time of application.

*At Raymond fertilizer experiments for truck crops are conducted.

By the Readers of Better Crops

"BIG YIELDS PER UNIT, BE IT ALFALFA, CORN, BUTTER FAT, or PORK!!!

But do it efficiently; cut down costs.

1. Alfalfa everywhere and clover—the general farmer can't afford to lose his seedings nor can he buy hay.
2. Other crops to suit the type of farming, climate and soil; probably corn for grain and silage, and not too much wheat or oats at present.
3. Most men should have a cash crop. It may be wheat, beans, soy beans, sugar beets, or potatoes.
4. Good stock. Not the best but get rid of scrubs as fast as possible, sheep, cattle, hogs, poultry, and horses, and replace with efficient workers.
5. Work out a good rotation suited to your farm.
6. Conserve manure and use wisely.
7. Use commercial fertilizer according to soil and crop and not too sparingly.
8. Study possibilities of special markets which you may either supply or develop. Truck crops (a few) for a nearby city, selling milk to a summer resort, selling seed corn, oats or wheat.
9. Most farmers work enough but between winter and rainy days some lose at least three half days a week.
10. Get crops in on time. I believe that our average yields could be increased at least 20% if crops were planted on time instead of planting so late.
11. Plant only what you can and will take care of. Several Michigan farmers still have corn in the shock (May 21).
12. Don't dodge the dairy cow.
13. Use pencil and paper liberally at all seasons, mix in a few hours of hard thinking, and study your business.—*D. F. Rainey, Extension Specialist, Michigan Agricultural College.*

As the selling end of any business is the most important, I would suggest teaching marketing as it is now done and offer suggestions that might better conditions to all concerned. According to Government statistics the distribution costs of farm products are too high. The farmers are not realizing even cost at present in the bankrupt condition of agriculture. This can not go on for but a short time, until his credit will be shut off entirely.—*W. R. Sanguin, Manager Farmers Union, Herington, Kansas.*

Lower freight rates. Cooperative marketing. Cooperative buying of farm essentials. More efficient and scientific methods of production. —*H. E. Knowlton, Assoc. Prof. of Hort. W. V. Univ., Morgantown, W. Va.*

Greater production per acre and per man through more generous use of fertilizer, legumes, lime, crop rotation, etc., and through the use of better machinery. This will lower the cost of production per unit and take care of increasing demands and all this with less labor.—*C. P. Blackwell, Agronomist, Clemson College, S. C.*

Promote soil building. Practice safe farming by having more than one cash crop. Grow all feed

needed on the farm. Use purebred livestock and pure seed. Market own products cooperatively.—*W. F. Howell, County Agent, Lancaster, S. C.*

Produce, in so far as possible, upon every farm all the requirements of the family first. So handle the soil, crops and livestock that they will be more productive as the years go on. Plan for a continuing cash income, weekly if possible. Plan for a major cash income determined by local conditions and adaptability of the farmer and his farm to the environment.—*E. D. Smith, Dist. Ext. Agt. Collins, Colo.*

Our country needs just the thing that is facing us—"*abandoning of farms and farming enterprises.*" This is the very course that must of necessity appear. Every cause has its corresponding effect, and it will take this to turn the current back to the farm. There is nothing wrong but a natural condition which must come in order to strengthen. —*T. L. Britton, County Agent, Hyden, Ky.*

What does agriculture need? For one thing agriculture needs a more intensive consideration of its problems. It needs a more open minded reception of proven facts, which are contrary to fixed opinion. To illustrate: if in North Carolina there is more profit in producing two pounds gain on a hog at a profit of two cents per pound than there is in producing one pound gain at three cents per pounds — agriculture should be ready to take advantage of that fact.—*W. W. Shay, Swine Extension, Raleigh, N. C.*

Familiarity with your soil type. Replace the plant food removed. Crop rotation. Cash crop. Livestock. Raise your feed. Farm bureau cooperation, especially with your neighbors. That is what I try to teach.—*Frank A. Stansfield, Teacher Agr., Lawrenceville, Ill.*

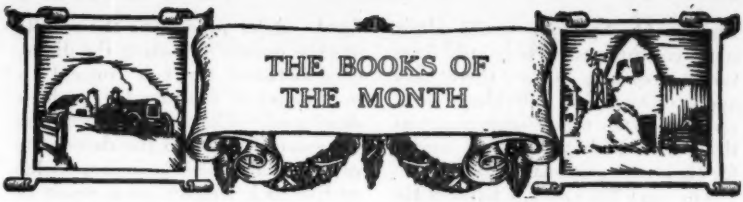
Quit arguing politics. If the same amount of diligence is used by the farmer in diversified farming, there is bound to be success.—*J. M. Axley, Wholesale Hay, Kansas City.*

A little less agitation to the effect that a farm is a poor investment—I have just bought a farm.—*R. B. Harvey, Assoc. Prof. College of Agri., University of Minnesota, St. Paul, Minn.*

Fewer loans. Less speculation. More Equitable Freight rates. A central distributing organization for all crops under Federal supervision based on the plan of the Citrus Fruit Exchange. More constructive planning on part of the farmer and less calamity howling and writing on part of those who pose as farm condition authorities in the farm publications and newspapers. In other words, "Less advice and a better price."—*L. E. McDaniels, County Agent, Basin, Wyo.*

Maybe you do not want politics discussed but as the result of a year spent in Europe, I should say that there is no hope for American agriculture until a satisfactory economic adjustment is made with Central Europe and Russia. This does not mean the League of Nations nor the Dawes' Plan, and I do not believe that any such adjustment will be made before 1928, and in the meantime American agriculture must go slow and suffer many inconveniences and disasters.—*B. F. Lutman, Prof. Plant Pathology, U. of Vt., Burlington, Vermont.*

Eliminate the one crop and one line of stock program. Grow better stock, it requires less feed and there is always a market for good stock. Some poultry and a few dairy cows with the major crops or livestock furnishes a steady income for the steady expense. Grow the feeds that the stock needs, and FEED THEM.—*J. L. Shields, County Agriculturist, Walsenburg, Colo.*



Dr. Spillman's New Book

"Farm Management" by W. J. Spillman. Published by Orange Judd Publishing Company, New York. Price $3.00 postpaid.

Dr. Spillman has developed two ideas in his book on farm management.

The first is that of size of farm and its relation to the business. In "The Problem of Capital in Farming," Chapter I, the relation of capital invested in the business to income possibilities is shown; the conclusion is drawn that a man with a small amount of capital should rent rather than own because income increases with size of farm, and a man with a small amount of capital cannot own a large farm. Since interest rates are the same for loans on small and large farms the premium due to the efficiency of the large farm unit accrues to the operator who is owner of the limited capital.

In Chapters XIV, XV and XVI it is shown why the larger farm unit is ordinarily more efficient than the smaller unit. The investments in buildings, fences, implements, and machinery are less per acre or per producing unit on the larger farms. Also man labor, and work horses, are used more efficiently on the large than on the small farms.

The three following chapters,—XVII, XVIII and XIX—discuss the results of farm surveys of the New England and the corn belt states. The prevailing farming types as indicated by these surveys are reviewed and tables are presented showing the various factors of the businesses of farms with small and with large incomes.

The second idea relates to the selection of the farm enterprises or sources of income. Around this idea he develops most of his discussion. The factors limiting the size of enterprises presented in Chapter II are, competition with other products, competition with other producing areas, "demand for the product" and the physical factors of soil and climate. The guide to the quantity of a commodity to produce is price. Price fails as an infallible guide, according to Dr. Spillman, because of yearly variations in crop acreages and yields. He states, "It will probably never be possible to adjust production to demand so accurately that there shall be a proper balance between them (commodities produced) under all conditions." It is further pointed out that in so far as such balance is possible it will come from a proper system of cooperative marketing. This remedy—cooperative marketing—depends for its success upon, first, a knowledge of market conditions, and secondly, upon the organization of producers "into compact organizations whose officers can guide them (cooperators) both in production and marketing."

The inference to be drawn from this is that the farmer individually can do little to effectively adjust his production to price changes, but it must come through cooperative effort both in production and in marketing. It is doubtful

whether Dr. Spillman would admit such conclusions. He would certainly concede that there are opportunities for individual farm operators to take advantage of these so-called production cycles for their own personal gain.

The next 220 pages, Chapters III to XIII inclusive, devoted to a discussion of the farming types in the various sections of the United States is the field in which the author is perfectly at home. From a farm organization and management standpoint, however, it is doubtful that the material justifies the space. The individual farmer must determine what and how much of the various enterprises he will produce. This is impossible without a presentation not only of the relation of size or "magnitude of the business" to net income, but also of the quality and the diversity of the farm business to income—both of which have not been sufficiently developed in this book to show their relation to a more efficient farm organization.

Probably the most important single factor in the study of the farm organization is the proper labor utilization. This subject is given special presentation in Chapter XX. The author shows a method of utilizing farm labor more effectively by determining the seasonal requirements of each crop and livestock enterprise; then dovetailing the proper amounts of certain of the enterprises adaptable to the region so as to obtain a larger amount of productive labor with the same man power.

The tenancy discussion, Chapter XXI, is introduced by showing the trend toward tenant farming. Types of tenure and various forms of share leases are mentioned and figures are presented showing typical share distribution of costs and returns.

In the discussion of the law of diminishing returns the terms "diminishing increment" and "diminishing net returns" are defined. After presenting the results of experiments indicating the difference between the two concepts a mathematical formula for each is developed. The term "diminishing increment" refers to the decreasing rate of increase either in crop yields or livestock weights as a result of continued application of equal quantities of some cause factor as fertilizer, irrigating water or feed. The term "diminishing net returns" expresses the same law in monetary terms. It includes all cost items, and for this reason the cause factor may be one of several, such as land, labor, or capital invested.

Products must be sold before profits can be determined, but the subject of marketing is of such scope as to require separate treatment. For this reason it is doubtful if the discussion of marketing "services" contained in the last chapter adds anything to the text on "farm management."

The book can be used to advantage as a text on types of farming. As a book on farm Organization and Management it lacks both subject matter material, and definite correlation showing how the individual goes about it to so organize his farm as to increase his net returns.

P. E. MCNALL,
Wisconsin Experiment Station.

Noteworthy Bulletins

Home Canning by W. V. Cruess and A. W. Christie, University of California Agricultural Experiment Station. Circular 276.

Marketing Cabbage by A. E. Cance and George B. Fiske, U. S. Department of Agriculture. Department Bulletin No. 1242.

Blackberry Growing by G. M. Darrow, U. S. Department of Agriculture. Farmers' Bulletin No. 1399.

The Cooperative Idea

(*From page 14*)

and that 415 of these did a business of about $30,000,000.

It is to be said that there has been distinct progress since 1920, and that each year sees new cooperative stores come into existence and old ones strengthening their position and increasing their efficiency.

In comparison, Great Britain, with a population of about 45,000,000 compared to our 112,000,000, showed a registration of 1,428 distributive trading societies with over 4,470,000 members.

The fundamental difference between the two nations largely explains this relative under-development of cooperative stores in the United States. Great Britain is a great beehive of industry, with a large body of population dependent upon foreign sources for its supplies of food, clothing, and numerous other essentials.

In this atmosphere and under such economic surroundings the consumer's greatest avenue of progress, in so far as purchase of goods is concerned, lies in saving on the purchase price. We have been great exporters. Now we are approaching the time when the balance between agriculture and industry will naturally result in a great acceleration in the development of consumers' cooperation.

Miners and certain industrial workers and farmers have thus far taken the greatest interest in cooperative stores. Some tie-point or community of interest other than the mere saving of money seems to be necessary in order to bring consumers' groups closely enough together to encourage successful enterprises.

The development of privately owned chain stores located in country towns affords a keen and difficult competition for cooperative stores. Such chains have a buying power that creates difficult competition. They usually also have experienced and deeply interested management because of a heavy financial investment. Already there is developing a movement toward the creation of cooperative chain stores.

In Kentucky, for instance, the Farmers' Union has fostered the development of a chain of eight stores in the region around Maysville, with a central warehouse located at Maysville. Recently it was announced that a similar chain would be developed in the counties around Louisville, with the central warehouse at Louisville. These chains are operated on the plan of having the district warehouse do the buying for the individual stores, with a further plan that the two warehouses will join and make all of the purchases in common.

THERE again it is the old story of close buying, efficient management, low cost per dollar of sales for doing business, loyalty of membership represented by doing as nearly as possible to 100 per cent of its buying at its own store, and the attraction of a large volume of non-membership business, that make success or failure in the cooperative store.

There are many other factors, particularly the character of the local competition, whether it can afford, by methods difficult for a cooperative to meet, to carry on under-cost or close-margin selling, whether there is an excessive number of stores competing in similar or identical lines, and especially whether the enterprise is conducted in a community where educational work along cooperative lines has been carried to the point where a genuine cooperative spirit has been generally developed that must be considered.

It is customary to make the conditions of membership so lenient that there is little motive for remaining a non-member. The most successful stores in my observation sell practically at the going prices in the ordinary privately owned and conducted stores, distributing their profits at the close of the year through patronage dividends based on the amount of business done by the customer.

The English cooperative stores usually pay their non-member patrons only one-half the rate of dividend that the members receive. This in itself is an important argument for joining the cooperative societies.

In the future, assuming a gradual increase in the number of cooperative stores in America and good management, their success will depend upon federation for securing low prices, greater buying power through quantity buying, and suitable methods of accounting control to promote the greatest possible efficiency.

Renovating the Strawberry Bed

(*From page 9*)

more vigorous plants are left and this is the greatest secret in successful renovation.

The plow should be set so that the strip is left a little wider at the bottom than at the top, in order to save the roots of the plants to be left. The soil should be worked down and pulled back against the portion of the row to be saved as quickly as possible. This is very important as the narrow strip of soil dries out quickly and once the roots are dry the plants are likely to be injured.

Some growers go one step farther. After the plants so left have begun to grow well they hoe out some of the plants leaving them about two feet apart. This gives another opportunity to remove some of the older or weaker plants and gives the new plants all the more chance to develop properly.

Runners from the mother plants left are used to build the new row as in the case of an original planting.

In the home garden this work may be accomplished equally successfully with a hoe and rake, leaving the mother plants about two feet apart in the row. By pulverizing the soil between the plants thoroughly, the new plants have good growing conditions.

To start the old plants into vegetative growth and to promote the formation of runners, some form of fertilization is advisable as soon as the bed is renovated. An application of 10 to 15 tons of well rotted manure, cultivated into the patch is a good practice. In most cases, however, commercial fertilizers must be depended upon. The proportions and amounts necessary will of course, vary with the soil type and the degree of fertility. It should be borne in mind that strawberries feed heavily on phosphorus and potassium. On soils of average fertility, comparatively little nitrogen is necessary. If nitrogen is present in too large quantities an excessive vegetative growth is produced with a consequent reduction in fruitfulness.

THE INCORPORATED STATES

"We allus feel like we was losin' money when we hear a p'litical orator say, 'Our government is a gigantic business enterprise, an' you an' me and all o' us are partners an' stockholders in it.' "

—*Abe Martin, in Indianapolis News.*

Among the special treats waiting for you in the November issue of BETTER CROPS *we will just mention an article by A. B. Genung with the hopeful title, "The Turn of the Road," and one by C. E. Gapen on "Ton Litters." There'll be lots of surprises, too.*

By *Ted Butlar*

BETTER CROPS' Washington Correspondent

Announcement comes from national headquarters in Chicago that E. B. Reid has been named temporary Washington representative of the American Farm Bureau Federation to take the place of Gray Silver who has resigned to devote all of his time to the presidency of the cooperative concern which will take over the five large grain companies and terminal elevators. "Ed," as he is familiarly known to the agricultural fraternity in Washington, is well fitted for his new job. For several years he has been assistant to Silver and during the greater part of his life has been intimately tied up with agricultural interests, both as a representative of farmer's organizations and in the field of farm journalism.

County agents and others will be happy to know that A. B. Genung, compiler of the blue sheet, "The Agricultural Situation" and a frequent contributor to BETTER CROPS, may not be lost entirely to the U. S. D. A. "A. B." tendered his resignation effective October 1, to take up advanced studies and economic work at Cornell University but government officials, recognizing his value, have about persuaded him to continue putting out the "sheet" which has become so popular in the field for its concise and complete manner of giving the "low down" on the agricultural situation from month to month. In the last issue of his publication Genung reported that the rise in grain prices, aided by a fall in prices of non-agricultural commodities, brought the general index of purchasing power of farm products up from 79 in June to 83 in July, the highest point in 47 months. Complete evidence that the condition of the farmer is definitely on the upgrade, is this.

That farmers, particularly fruit and vegetable growers, are showing keen interest in Federal inspection of farm products is shown in the statement that during the fiscal year closing June 30th, there was an increase of 50 per cent over the preceding year. Federal food products inspectors handled 127,354 cars of produce at shipping points and 29,283 cars at receiving points, compared with 72,466 cars at shipping points and 28,169 cars at receiving points during the year before. Shipping point inspection service, according to Secretary of Agriculture Wallace who has given personal attention to its development, has been revolutionary in its results. "These," says Secretary Wallace, "include a greater realization by growers of the true meaning of standardization; improvement in the quality of offerings by growers' associations; creation of a new and acceptable basis for pooling products; facilities whereby purchasers can order goods safely without first seeing them; and improved methods of handling." By means of the Federal inspection service a grower can have his products inspected before they a reshipped. The certificates issued are prima facie evidence in the courts of the United States as to the grade and quality of

products. It removes "sight and unseen" buying and pays a farmer for actual quality in his products.

Southern states are showing the keenest interest in cooperative marketing of farm products, recent reports disclose. The large volume of business handled by the recently organized tobacco, cotton, and rice associations is given as the reason for the condition. Cooperative organizations in the seven west north central states handled 45 per cent of the total in 1915, whereas they now handle only 30 percent. The three Pacific coast states, where the cooperative effort has been intense, handled 24 per cent of the total in 1915 but dropped to 19 per cent in 1923. These decreases are absorbed by southern states where the cooperative start was slow but has been greatly stimulated in recent years.

Some idea of the wide scope of extension activities can be seen in compilations recently made by Extension Service, U. S. D. A., to the effect that farmers and extension workers held over 245,000 demonstration meetings during the fiscal year of 1923. These demonstrations covered everything from corn culture to child feeding and the attendance, according to best estimates, was more than 5,298,000.

Most of the talk about the feeding value of sawdust is buncombe, says the Bureau of Dairying, U. S. D. A. Hydrolized sawdust is unpalatable, contains but little nutriment, and can be fed only in small quantities. The maximum value that apparently can be given to sawdust as feed for livestock is 14.5 per cent of that of corn meal. New industries are continually being launched and with every one of them there are certain by-products produced which must be used in some way. The Bureau of Dairying has kept in advance of these new industries by making feeding tests of the numerous by-products. Although sawdust has been thrown into the discard many by-products have been found of value. Fish meal, which is made from the waste in the canning of sardines, has been found to be worth pound for pound 20 to 25 per cent more than prime cotton-seed meal, although not so palatable. Peanut feed and potato silage have been experimented with and possess certain qualifacations as feed.

The Last of the Poisonous Plants

(*From page 21*)

that have greened after being exposed to direct sunlight. It seems the part of wisdom to keep hungry grazing animals away from potato foliage, green potato parings, green tubers and old sprouted potatoes.

Among plants recently discovered to be poisonous is the star-of-Bethlehem or star flower, a common weed in Maryland, Virginia and in the Ohio River Valley. The bulbs are poisonous to sheep and cattle. In Clark County, Indiana, a number of cows became seriously ill after eating star-flower bulbs that had been uprooted by hogs.

The afore-mentioned poisonous plants are all of comparatively minor importance, but one never knows when knowledge concerning them may be of practical value. If anything new develops from our field work and feeding experiments here at Purdue that may be of value to readers of BETTER CROPS you may expect to hear from us again.

Possession

A young five-year-old friend of ours who had been permitted to play with a neighbor's dog recently acquired a canine animal of her own. "Now," she announced with satisfaction, "I have a dog of my own—and not just a step-dog!"—*New York Herald-Tribune.*

Genuine German Potash Salts

can be secured from any of the following distributors:

ALABAMA

Birmingham—
Grasselli Chemical Co.
F. S. Royster Guano Co.
Virginia-Carolina Chemical Co.
Montgomery—
American Agricultural Chem. Co.
Armour Fertilizer Works
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ARKANSAS

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Arkansas Fertilizer Co.

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Azusa—
Geo. W. Fuhr
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Sun Fertilizer Co.
Glendora—
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Agricultural Chemical Works
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Potash Importing Corporation
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CONNECTICUT

Bridgeport—
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Hartford—
Olds & Whipple, Inc.
Middletown—
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FLORIDA

Bradentown—
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Eustis—
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Frostproof—
Gulf Fertilizer Co.
Jacksonville—
American Agricultural Chem. Co.
Armour Fertilizer Works
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Nitrate Agencies Co.
E. O. Painter Fertilizer Co.
Virginia-Carolina Chemical Co.
Wilson Toomer Fertilizer Co.
Lake Hamilton—
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Sanford—
Chase & Company
Tampa—
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Terra Ceia—
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Albany—
Armour Fertilizer Works
Swift & Company
Virginia-Carolina Chemical Co.
Athens—
Empire State Chemical Co.
Georgia Phosphate Co.
Hodgson Cotton Co.
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A. D. Adair & McCarthy Bros. Co.
American Agricultural Chem. Co.
Armour Fert. Wks. (So. Hdqrs.)
International Agricultural Corp.
F. S. Royster Guano Co.
Swift & Company
Virginia-Carolina Chemical Co.
Augusta—
Southern State Phosphate & Fertilizer Co.
Virginia-Carolina Chemical Co.
Baxley—
R. L. Lewis Co.
Columbus—
International Agricultural Corp.
Cordele—
Read Phosphate Co.
La Grange—
Swift & Company
Macon—
F. S. Royster Guano Co.
Pelham—
Pelham Phosphate Co.
Savannah—
American Agricultural Chem. Co.
G. Ober & Sons Co.
Mutual Fertilizer Co.
Read Phosphate Co.
Reliance Fertilizer Co.
Savannah Guano Co.
Southern Fertilizer Co.
Swift & Company
Virginia-Carolina Chemical Co.
Toccoa—
Swift & Company
Valdosta—
Georgia Fertilizer & Oil Co.
Vidalia—
Vidalia Chemical Co.

ILLINOIS

Chicago—
Armour Fertilizer Works
Darling & Company
Swift & Company

National Stock Yards,
St. Clair County—
Swift & Company

INDIANA

Hammond—
Swift & Company
Indianapolis—
Rauh & Sons Fertilizer Co.
Smith Agricultural Co.
New Albany—
Calumet Fertilizer Co.
Read Phosphate Co.

KENTUCKY

Louisville—
Armour Fertilizer Works
Federal Chemical Co.

LOUISIANA

New Orleans—
Armour Fertilizer Works
Nitrate Agencies Co.
Swift & Company
Shreveport—
Swift & Company
Virginia-Carolina Chemical Co.

MAINE

Houlton—
International Agricultural Corp.
Presque Isle—
Armour Fertilizer Works

MARYLAND

Baltimore—
American Agricultural Chem. Co.
Armour Fertilizer Works
Baugh & Sons Co.
Griffith & Boyd Co.
Miller Fertilizer Co.
Nitrate Agencies Co.
G. Ober & Sons Co.
Piedmont Mt. Airy Guano Co.
F. S. Royster Guano Co.
Swift & Company
Virginia-Carolina Chemical Co.
Salisbury—
W. B. Tilghman Company, Inc.

MASSACHUSETTS

Boston—
American Agricultural Chem. Co.
The Lowell Fertilizer Co.

MICHIGAN

Detroit—
American Agricultural Chem. Co.

MISSISSIPPI

Jackson—
Virginia-Carolina Chemical Co.
Meridian—
Meridian Fertilizer Factory
Tupelo—
Tupelo Fertilizer Factory

MISSOURI

St. Louis—
American Agricultural Chem. Co.
Armour Fertilizer Works
Swift & Company

NEW JERSEY

Bound Brook—
Nitrate Agencies Co.

NEW YORK

Buffalo—
American Agricultural Chem. Co.
International Agricultural Corp.
New York—
American Agricultural Chem. Co.
Armour Fert. Wks. (East. Hdqrs.)
International Agricultural Corp.
Mutual Fertilizer Co.
National Aniline & Chemical Co.
Nitrate Agencies Co.
Virginia-Carolina Chemical Co.
Zaldo & Martines Exchange Co.

NORTH CAROLINA

Charlotte—
International Agricultural Corp.
F. S. Royster Guano Co.
Swift & Company
Henderson—
American Agricultural Chem. Co.
Lillington—
Farmers Cotton Oil Co.
Harnett Oil & Fertilizer Co.
New Bern—
G. Ober & Sons Co.
Tarboro—
F. S. Royster Guano Co.
Washington—
Bragaw Fertilizer Co.
Pamlico Chemical Co.
Wilmington—
Acme Manufacturing Co.
Nitrate Agencies Co.
Swift & Company
Virginia-Carolina Chemical Co.
Wilson—
Farmers Cotton Oil Co.
Winston-Salem—
Virginia-Carolina Chemical Co.

OHIO

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American Agricultural Chem. Co.
Armour Fertilizer Works
International Agricultural Corp.
Virginia-Carolina Chemical Co.
Cleveland—
Swift & Company
Columbus—
Smith Agricultural Chemical Co.
Dayton—
Wuichet Fertilizer Co.
Sandusky—
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Toledo—
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Portland—
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I. P. Thomas & Son
Tunnel & Company
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Pittsburgh Provision & Packing Co.
Reading—
Keystone Bone Fertilizer Co.

Wadsworth—
Ohio Match Co.
York—
York Chemical Works

SOUTH CAROLINA

Anderson—
Anderson Phosphate & Oil Co.
Charleston—
American Agricultural Chem. Co.
Etiwan Fertilizer Co.
Maybank Fertilizer Co.
Planters Fert. & Phosphate Co.
Read Phosphate Co.
Virginia-Carolina Chemical Co.
Chester—
Swift & Company
Columbia—
American Agricultural Chem. Co.
Armour Fertilizer Works
Darlington Guano Co.
F. S. Royster Guano Co.
Swift & Company
Virginia-Carolina Chemical Co.
Greenwood—
T. M. Miller Co.
North—
J. E. Culler Co.
Spartanburg—
American Agricultural Chem. Co.
F. S. Royster Guano Co.

TENNESSEE

Memphis—
Virginia-Carolina Chemical Co.
Nashville—
Armour Fertilizer Works
Read Phosphat Co.
Virginia-Carolina Chemical Co.

VIRGINIA

Alexandria—
American Agricultural Chem. Co.
Danville—
G. Ober & Sons Co.
Lynchburg—
Pocahontas Guano Co.
Norfolk—
American Agricultural Chem. Co.
Baugh & Sons Co.
Farmers Guano Co.
International Agricultural Corp.
Chas. W. Priddy & Co., Inc.
Robertson Chemical Co.
F. S. Royster Guano Co.
Swift & Company
Virginia-Carolina Chemical Co.
Portsmouth—
G. Ober & Sons Co.
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New Brunswick

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C. E. Gallagher Co.
Hartland—
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St. John—
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Wilson, Patterson & Gifford
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Nova Scotia

Wolfeville—
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Ontario

Chatham—
National Fertilizers, Ltd.
Hamilton—
National Fertilizers, Ltd.
Ingersoll—
National Fertilizers, Ltd.
Toronto—
Swift & Company
Wilson, Patterson & Gifford
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Gunns, Ltd.
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Dept. B. C.

The Potash Importing Corporation of America

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564 Market St.
San Francisco

Citizens' National Bank Bldg.
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A Special Offer —free to you

To assist county agents, agricultural teachers, extension workers and other industrial agencies, we are glad to send a copy of any of the following booklets that might be helpful in your work:

Principles of Profitable Farming
The Bushels That Made Me Money (Wheat)
Sugar Beet Culture
Fertilizing Peaches
Fertilizing Strawberries
Muck Lands
Better Tobacco
Better Cotton

These booklets were written by experts and contain valuable information on the proper and profitable use of fertilizers. Upon receipt of your request, we will mail you a copy of each booklet requested. If, after looking them over, you want more for distribution among the people you are working with, we shall endeavor to send them as long as our supply lasts.

We have still a few sets of potash specimens also for free, educational distribution. A set consists of 1 bottle 6¼ in. high containing various forms of crude potash, and 5 bottles each 4¾ in. high containing a refined potash salt. A set of these will be sent free postpaid upon request.

Address Dept. B. C.

Potash Importing Corporation of America

Importers of Genuine German Potash

81 FULTON STREET NEW YORK

564 Market St., San Francisco

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To the Highest Bidder

(*From page 7*)

companies serve 47 per cent of the urban population in cities of 8,000 inhabitants and over; 58 per cent in cities of 25,000 and over, and 80 per cent in cities of 100,000 and over.

Approximately 80 per cent of auction commodities come from the large organized fruit growers. These organizations have found the auction sales method profitable, regardless of cost, as it makes possible the concentration and rapid sale of fruit at a single point. More than 90 per cent of the buying trade from street peddler to wholesaler assemble at the sales and there is keen competition for the products. The fruit is sold the same day it arrives and the account is settled immediately. The auction company guarantees payment by the purchaser.

IT has been found that only what is known as an "auction commodity" can be successfully sold at auction. Such a commodity is defined as a standardized product known by label and brand, which arrives regularly on the market in large supply, and of which from 15 to 25 per cent of the supply entering the terminal market is sold at auction. Any specialized commodity grown in a limited territory and for which there is nation-wide demand supplied entirely by sale at auction is also regarded as an "auction commodity." Experience has demonstrated that the auction system cannot be successfully utilized by the small, individual grower whose product is ungraded, not standardized, and unknown.

Individual shippers or groups of growers who have an auction commodity either maintain at the auction center a branch office or employ what is known as an "auction receiver." These representatives arrange matters of sale by auction, attend the sales, and complete financial transactions. The cost of maintaining a branch office for this purpose runs around 1 per cent of the selling price of the commodity; an additional 2 per cent is charged by the auction company, making the total cost 3 per cent. Terminal charges ranging from one-third of 1 per cent to 1½ per cent are paid by the buyer. An "auction receiver" employed on a commission basis charges 5 per cent of the selling price, out of which he pays the auction company charges and other incidental expenses.

The concensus of opinion is that on a rising market the auction room is a profitable sales medium, but that on a declining market the commission sales method brings higher returns, depending on the sales ability of the shipper's representative. The main consideration regardless of price return, influencing large organizations to use the auction is that it is a quick sales medium. These organizations must dispose of their products rapidly to prevent market gluts.

The usual method followed by the auction in handling products is first to inform the trade through paid advertising of the commodities offered. Printed catalogs are prepared, and each prospective bidder has an opportunity to inspect sample products in a special display room. At a designated hour the buyers assemble at the auction room and the products are sold as listed in the catalog to the highest bidder. Delivery of the products is made immediately following the sale, and accounts rendered, buyers being allowed 10 to 15 days credit on domestic commodities. At the conclusion of the sale a second catalog is prepared, indicating the prices realized for the various lots

of goods, thus providing the sales representative with an official statement of prices.

The auction companies attribute increased sales in recent years largely to the development of cooperative marketing in the United States. These organizations prefer the systematic marketing of farm products to the more or less haphazard methods of selling small lots direct to commission merchants, and as cooperative organizations become more numerous it is predicted that the volume of auction sales will steadily increase. The auction companies are also making a careful study of the entire marketing problem to discover new products that may be successfully sold at auction.

Fertilizing Cucumbers

(*From page 23*)

the incomplete fertilizer plot was less than 35 per cent. Potash increased the yield 250 bushels per acre which at factory prices, represented a gain of $156.25 per acre on the crop marketed. The cost of the potash was $2.70 including freight, leaving Mr. Furness a net profit from its use of $153.55—certainly a good return from so small an investment.

Results very similar to the above were obtained by Rogers & Kilburn, of Jasonville, Indiana, who are growing profitable crops of cucumbers on a sandy loam soil. The secret of their excellent success lies in the judicious use of a complete fertilizer with a high per cent of potash. Without fertilization the crop was practically a failure. Results of their first test of fertilizers for cucumbers clearly demonstrate the practicability of the use of a good fertilizing mixture.

The accompanying photographs and table tell the story about as well as it can be told. The ground on which this experiment was made was divided into tenth-acre plots. Dried blood, acid phosphate and sulfate of potash were used on one plot, while on another the potash was left out of the mixture, the two other materials remaining the same. One plot receiving no fertilizer application was kept as a check on the results of those fertilized. Unfavorable weather conditions cut short the yield of all plots. The total pickings on an acre basis up to and including August 16th are given in the following table.

Plot	Fertilizer per Acre	Yield per Acre in Bushels	Increase per Acre in Bushels	Crop Value $1.00 per Bushel	Profits from Fertilizer	Gain from Potash
1	None	1		$1.00		
2	65 lbs. Dried Blood 250 lbs. Acid Phosphate 100 lbs. Sulfate of Potash	54.2	53.2	$54.20	$53.20	$10.80
3	65 lbs. Dried Blood 250 lbs. Acid Phosphate	43.4	42.4	$43.40	$42.40	

The vines on the fertilized plots came into bearing two weeks earlier than the vines on the unfertilized plot making a striking difference in the market value of the crop. The gain from the use of the fertilizers was $53.20 and $42.40 per acre, respectively, the gain from the use of potash was $10.80 per acre.

Unscrambling the Ology Omelet

(*From page 18*)

stead of being a phase of the latter (an arrangement found in some of the southern institutions), they should be separated, clothed with responsibility and given the right of self determination. They should cooperate with horticulture but not be entangled administratively with it. That is only one phase of the unscrambling of the ologies which we are pleased to note has progressed very far. We hope it will be complete some day. We shall probably be accused of heresy by some of the scientific fraternity for what we shall now remark. Ten years of experience in various corners of the United States lead us to believe that the farmers and orchardists have been generously fed up on a ration of generalizations which no longer fills the bill. These have come naturally from the colleges and the experiment stations, both state and federal. Admitting that the farmer has a far better source of information today than he has ever had before, he nevertheless has need today of more definite, accurate and applicable information, particularly in the highly specialized lines of agriculture such as fruit raising and truck gardening.

A cross section of the county agents of the country will show that they are not specialists but men of general agricultural training. They depend upon headquarters for expert advice. They are not supposed to do research work in the field. Theirs is typically an extension function. We are behind the county agent with both barrels because he has a tough assignment, and we realize that Solomon with all his wisdom could not possibly answer half the questions fired at a county agent in the course of one week. But the county agents and field demonstrators need more direct backing by the technical men who are supposed to be the specialists. There has been too much scientific research in plant pathology and entomology at headquarters followed up by promiscuous recommendations to sections where the facts do not in any way apply. Speaking of the apple raising game I say with utter conviction that the orchardists of the country need advice based on local research and not the kind cooked up from a distant section where conditions are different. We believe thoroughly in the institution known as the substation, where experimentation in entomology, pathology and fertilizing is carried on.

Recent investigations of the behavior of certain insect and fungus pests of apples indicate that within individual states the differences in topography, elevation and latitude cause differences in the time of emergence and the rate of development of these pests. For instance, it was found that at Crozet, Va., the emergence of the codling moth is approximately four or five days earlier than at Winchester which is only 142 miles northwest of Crozet. It is apparent that identical dates cannot be set for the application of the codling moth spray for both of these places. A variation of a few days too early or too late destroys the effectiveness of most every spray in the calendar. Due to the work of substations in Virginia, it was found necessary to subdivide the State into three distinct districts and make distinct spray recommendations for each district. The same situation undoubtedly exists in many other states.

The experiences of the writer at one of the largest apple producing and distributing points in the world have convinced him of the utter need of advice to the growers based

Learn the truth about Fertilizer

Commercial fertilizer is not magic. It is no substitute for work, or for farming brains. It will not make a successful farmer out of a shiftless, ignorant failure. Fertilizer varies in quality like corn or tobacco or cotton, and some brands are worth more than others. Good fertilizers, like Royster's reliable old mixtures, are a godsend to good farmers who learn how to best use them to make money

Nearly forty years experience enters into the making of the Royster mixtures, and hundreds of thousands of the country's best farmers pin their faith to this famous old brand.

For advice about the use of fertilizer, write to Farm Service Department.

F. S. ROYSTER GUANO CO.

Norfolk, Va Richmond, Va. Charlotte, N. C.
Columbia, S. C. Atlanta, Ga. Montgomery, Ala.
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ROYSTER

Field Tested Fertilizers

on facts observed and research conducted on the spot where such advice is needed. In a single county like Frederick County, Virginia, where the normal apple production is over a million barrels, it is apparent that one erroneous spray recommendation might entail the loss of thousands of dollars. We need a larger number of technically trained men to do work right out where things happen, where the important pests occur and where the growers can have the advantage of immediate service instead of writing in to the state experiment station. There has been too much swivel chair research in our experiment stations. A demobilization of part of the staffs of these stations to points where things happen in the bug and fungus realm seems imperative. The pathologist must go to Winchester or Hood River or Yakima, because Winchester, Hood River and Yakima will not come to the pathologist or any other species of "ologist."

Furthermore, scientific facts need not be incubated for several years and then presented in such technical language that the angels of heaven must have sardonic grins. Some of our so-called scientific brethern need to shake the mothballs out of their style and speak understandable English. An investigator should know a fact when he sees it and proves it. When our microscope tells us that the ascospores of apple scab are flying in the month of May and threaten to cause a severe epidemic of the worst apple disease in the land, we do sit down to review the literature on the subject or incubate the big idea, but on the other hand, we put into operation the well greased machinery of broadcasting the information to a thousand or more apple growers and urge them to apply summer strength of lime sulfur immediately if not sooner. Headquarters is informed by wire and soon the whole state knows what has transpired. That is the way one "ology," unscrambled from the great mother bosom of horticulture and subdivided into several field laboratories and substations, reacts to the situation where immediate help is imperative.

This, Oh Jeff, is the burden of our effort. We are opposed to combining different "ologies" in some related department at our agricultural colleges and experiment stations. The "ologies" must be unscrambled, given self determination with responsibility and left to ride. Headquarters research on sharply localized problems must stop. Scientific research in agriculture must undergo more localization and the results applied within limits that can easily be determined. Long range scientific generalizations couched in terribly technical language must be substituted with closeup advice with a kick in it and in the language of the daily newspaper. The scientist, in specific instances, must leave his swivel chair at headquarters and go far afield where the farmers and orchardists need the benefit of his technical training. This long range research with insect pests and fungus diseases has resulted in too much bull and not enough bullseyes, Referring back to our initial theme; "Mahomet must go to the mountain; the mountain will not come to Mahomet."

Milking Time, A. D. 1953

"Everything ready for milking?"

"I think so, boss."

"Cows been scalded?"

"Thoroughly."

"Have they been fumigated with formaldehyde?"

"Utterly."

"Have the milkers been boiled?"

"Of course."

"Have the milk pails been scrubbed with bichloride of mercury?"

"Every pail."

"Then set the barn on fire, put on rubber gloves, and do the milking."

—*Butterfat Magazine for Aug., 1924.*

Good News

for every man who shaves himself

Colgate's Rapid-Shave Cream puts an end to shaving discomforts.

It softens the beard *at the base*—where the razor's work is done, and it leaves the face soothed and velvety.

Be sure to get a tube today, and notice the *big difference* it makes for the better.

Large Tube
35c

Cut out and mail this coupon for a FREE trial tube containing cream enough for 12 easier shaves than you have ever had.

COLGATE & CO.,
Department 356
199 Fulton Street, New York.

Please send me the free trial tube of Colgate's Rapid-Shave Cream for easier shaving.

Name.....

Address.....

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Livestock Breeding by Choice or Chance

(*From page 11*)

I consider these conditions deplorable. I am not financially able to own my own sire at the present time, but I would like to be able to patronize purebred bulls. Yours for better stock."

While the case just mentioned is the only one known, other evidence shows that there is little likelihood of the number being large. On the contrary, the average purebred-sire user, reports show, influences about 13 other persons to improve their stock. Such a result more than outweighs any possible backsliding. The indirect effect of this kind of work also is probably greater than results which can be put down on paper. Yet, in conclusion, it may be of interest to know what livestock owners themselves think of the purebred-sire idea and how they conduct their breeding operations when they begin to look into the matter seriously.

They say that in twelve different ways purebreds surpass common stock.

The average superiority based on utility is 40.4 per cent.

They acquire five times as many purebred females as they have purebred sires.

About four-fifths of purebred-sire users sell surplus purebreds as breeding stock.

They report 99.1 per cent satisfaction with the offspring of purebred sires.

About 98 per cent of purebred sires obtained prove satisfactory.

The average increase in financial returns from the use of purebred sires is 48 per cent.

Inferior breeding is the predominant cause of runty livestock.

Heredity is an important element in an animal's ability to grow rapidly and to reach the desired size.

Purebreds make about 40 per cent better returns on feed used than common stock.

Success with purebred stock in one kind of farm animals leads to the use of purebreds in other kinds.

In competent hands, purebreds give sufficient additional returns to more than justify their greater cost and the extra care which they ordinarily receive.

Added to what county agents and owners think of livestock improvement and the importance of using purebred sires to attain that goal, it is rather satisfying to have the active support of many substantial organizations. Federal and State Governments are back of this important work. The agricultural press has been a long-time champion of it. Bankers, at one time somewhat dubious about purebred stock as an investment, have accepted it as part of their platform. Progressive railroad companies have put on demonstration trains to do "missionary" work. And the breed associations are devoting more and more attention to improving the quality of purebreds and getting them into the hands of practical farmers who are interested most in the utility side of the question.

Finally, the legal profession in many communities is aiding splendidly in helping farm organizations put on scrub-sire mock trials where juries of farmers may hear the evidence on both sides and render a verdict that often decides the future of the livestock industry for miles around. The Department of Agriculture has distributed more than 500 outlines for conducting such trials, and all verdicts reported thus far have been "Guilty" with the recommendation to replace scrub-sires with purebreds of good type.

Alfalfa Creates Potash Hunger

(*From page 12*)

been used and the reduction in yield was universally ascribed to rust. The rust was particularly noticeable after alfalfa.

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The use of fertilizer has become a necessity to modern agriculture. Farmers of the Eastern States have realized for years the profit to be made from the use of fertilizers, and now the Western farmer is rapidly learning to look upon fertilizer as an "investment" rather than an "expense."

The American farmer is learning that by taking everything from his soil and returning nothing, he is headed straight for agricultural bankruptcy, and that every dollar spent on good fertilization is better invested than a dollar in the savings bank.

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We find that farmers claim that kainit is more effective in suppressing rust than other forms of potash. Experiment station authorities say that while this is true all forms of potash are effective in suppressing rust of cotton.

ONE reason assigned for the potash hunger showing up particularly where alfalfa was grown a few years, is that this legume is a heavy feeder on potash and its deep and extensive root system takes up much of the available supply in the soil. While exhausting the readily available potash it is accumulating through plant debris of shattered leaves and of sloughing roots considerable organic matter containing a high percentage of nitrogen. Acid phosphate is applied liberally to alfalfa and rather freely to cotton. Consequently the nitrogen and phosphorous supply is increased and the potash decreased. The greater supply of other elements accentuates the hunger of crops for the decreased potash.

This experience of cotton growers in the Piedmont region of the southeast emphasizes the fact that potash belonging to the soil is not necessarily potash for the plant. The clays seem to have a hammer lock and toe hold combined on their own potash, releasing it very parsimoniously and refusing to shake down even when baited with organic matter and assailed by bacteria, fungi and other denizens of the underworld released in its midst by the organic matter; nor does carbonic acid or any other acid seem to make much impression on the "gooey" colloids of clay by way of dissociating the potash from its clinging and affectionate surroundings.

Therefore, feed potash liberally to cotton on the Piedmont soils as well as to cotton on the coastal plain soils, and the more legumes are grown the more potash will be required.

About Ourselves

BETTER CROPS is a monthly magazine edited primarily for those who act in an advisory capacity to the farmer.

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BETTER CROPS PUBLISHING CORP.
81 Fulton Street New York

Mr. Farmer, Individualist

(*From page 4*)

Some say there is no such commodity—and I do not believe there is.

Politicians are not usually men of brains. They are shepherds. They herd the masses. They are keen to find the bell-wether and guide him toward their desires, confident that his flock will follow.

All men look alike to politicians. Each man has one vote.

The politician's raw stock is the average man—the masses. And, sometimes, familiarity with his raw material induces the politician to refer to men as "them asses" instead of "the masses."

And farmers, because they are individualists, puzzle the poor politicians.

Farming is the backbone of the country's welfare. And when this backbone softens to the consistency of boiled macaroni, economists, demagogs, sophists and politicians "view with alarm."

That the farmer's reward should be on a parity with the service he renders is a sound proposition, and one to which all thinking men subscribe. But the methods to be used in coming at a state of affairs in which the farmer will be permanently prosperous are a matter of debate.

Many varieties of effort are on foot. Panaceas are passed preliminarily about, that the agriculturist may taste and discover whether or not these are the needed tonics.

And always, as during an epidemic the sick and well are inoculated with the same virus, the aim is to devise remedies that will fit all farmers. The dose is laboratory-fabricated for the average farmer, when there is no average farmer.

Farming is a life. A farmer is an individualist. He cannot be herded, and examined in the mass. He must be picked up carefully between the thumb and forefinger and scrutinized, analyzed, studied and prescribed for individually. His meat is his neighbor's poison.

No universal political or economic panacea will permit us to dodge this vital issue.

So we get the proposition: until there comes a general understanding of the individualism of the farmer, all organized effort to aid him win the rewards rightfully his must fail.

And I submit this: that if each farmer were taught how to make money on *his* farm, all farmers would then be making money! And thus the problem would be solved!

Must County Agents Be Married?

(*From page 5*)

insect life, he must be a horticulturist to advise about horticulture, a chemist to know the soil needs and on and on. This, indeed, would be an ideal much to be desired but one short lifetime is insufficient to prepare a man in all of these lines and the County Agent, where his knowledge is lacking, must, it seems to me, act as a clearing house, secure the information asked for, from experience, from books, from others, or in other ways and distribute it in a plain, impressive way as completely as possible.

As for the boys' and girls' clubs and special lines of work which are sometimes far removed from the County Agent, is it not his problem to obtain the cooperation of individuals or groups of individuals who are in closer touch with the problems of the country people and are perhaps better capable of "putting over" the work program if it is properly organized?

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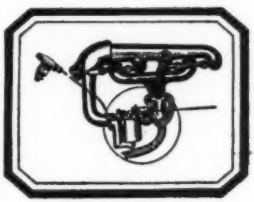

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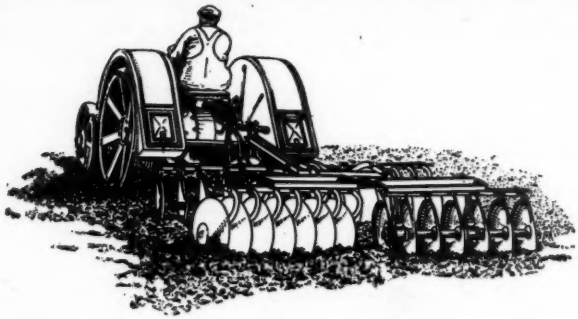

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